Hurricane Stocks: Risks and Ventures During U.S. Landfalls

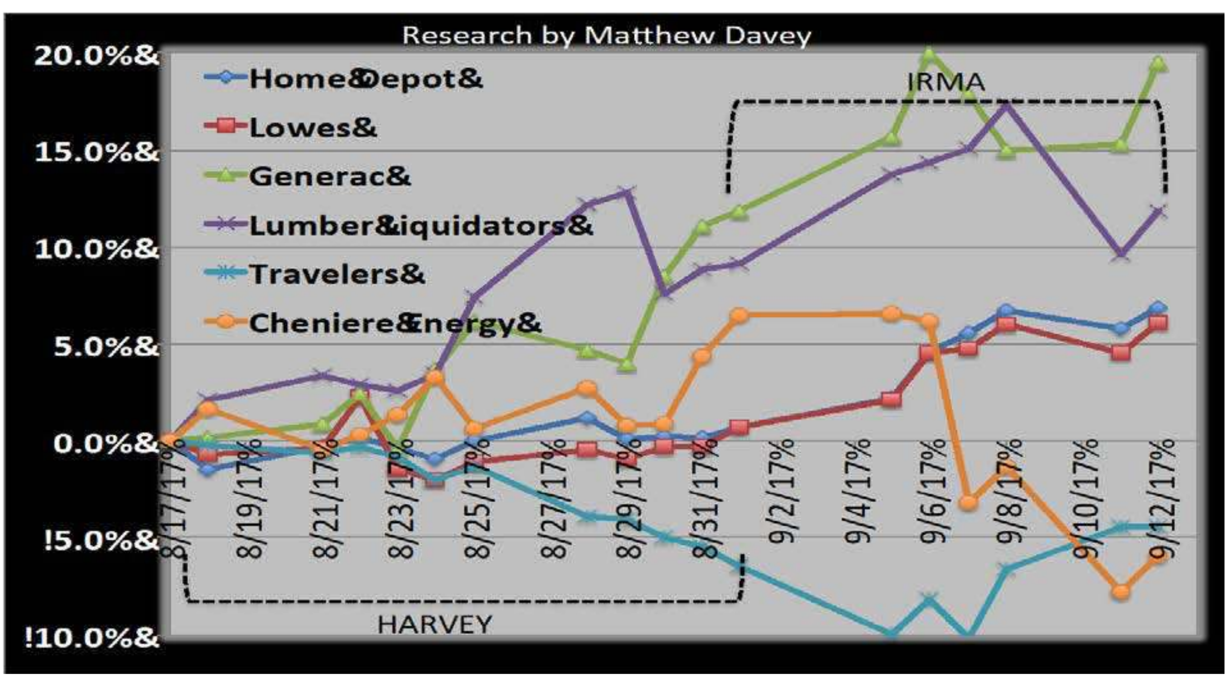
BEST WEATHER INC

Best Weather Inc. forecasts weather conditions and their impacts on financial markets. This includes hurricanes. These powerful systems have economic impact due to the preparation, disruption, and recovery caused by high winds, storm surge and flooding. They are also very difficult to forecast. We utilize our propriety software, *Climatech*, a variety weather models and years of experience to accurately forecast hurricane tracks and intensities.

Commodities have historically been impacted by these storms. Back in 2005, the hurricanes Katrina and Rita disrupted natural gas rigs operations in the Gulf of Mexico. More recently Hurricane Harvey impacted markets, as gasoline refineries were shut down due to significant flooding. Cotton crops that were ready for harvest were damaged or destroyed. However, the research in this educational study is focused on a different investment sector: ***equities***.

We examined the past 9 storms that made landfall in the U.S. at hurricane strength. These include Irma and Harvey 2017, Matthew 2016, Arthur 2012, Sandy 2012, Isaac 2012, Irene 2011, Ike 2008, and Gustav 2008. We analyzed the percentage price move from before to just after landfall in several weather-sensitive stocks. ***Cheniere (LNG)*** is a Houston based company primarily engaged in the liquefied natural gas business. Higher natural gas prices usually lead to increase in profits. ***Lumber Liquidators (LL)*** is a retail chain that sells hardwood floors. Their sales increase if floors need to be replaced due to flood damage. ***Home Depot (HD)*** and ***Lowes (LOW)*** sales increase as well. Generators are useful during, and after, periods of severe weather, so hurricane impacts can spur purchases from ***Generac (GNRC)***. ***Travelers (TRV)*** is one of several companies in the insurance sector that may see lower earnings due to massive benefits paid out to policy holders.

The statistics on the past moves of these companies do indicate reliable price movements. For *HD, LOW*, and *LL,* positive price moves occur in 6 of the past 9 land-falling hurricanes. The average (max) move for the three stocks in the six positive events are 4% (10%), 4% (10%), and 10% (20%), respectively. The largest move of any stock occurred in *GNRC* for Hurricane Sandy: a whopping 45%! The average move in GNRC (whose IPO was in Q1 of 2010) was 15% (5 positive events out of 8 hurricanes). The other two stocks were not as reliable. *LNG* only led to a price bounce in one of the nine hurricanes. *TRV* stock only dropped in three landfalls. These results indicate that the equities related to storm preparation and rebuilding (particularly construction) are most impacted. Readers should note how the stocks in recent hurricanes performed extremely similar to what the research suggested would occur. *HD* and *LOW* performed reliably with modest returns 4%-10%. *GNRC* and *LL* had more explosive moves. *TRV* and *LNG* were less reliable.



Data Source: NASDAQ

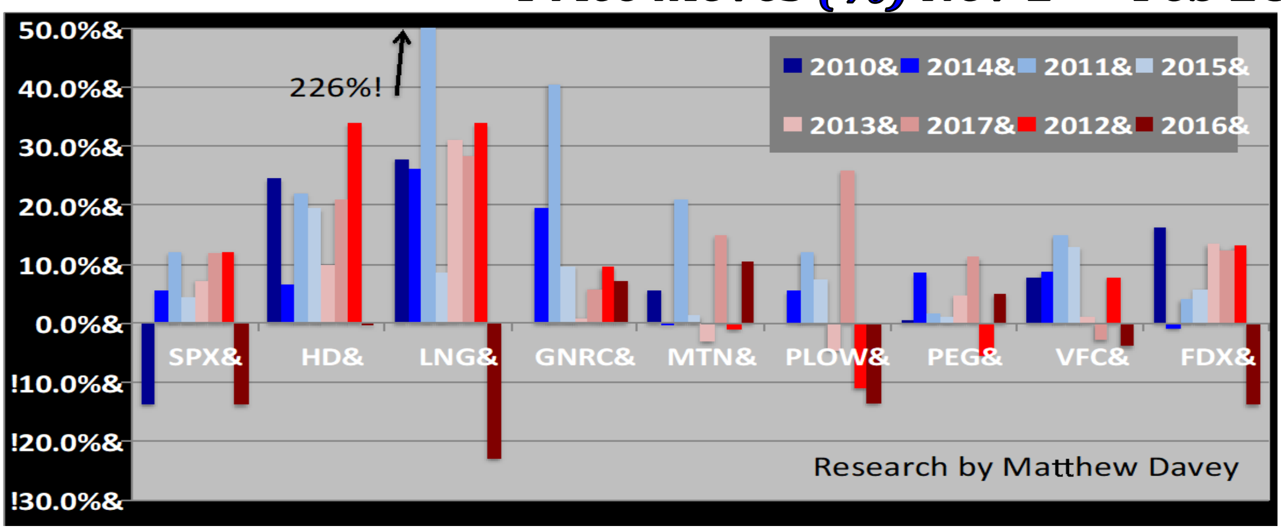
WINTER U.S. TEMPERATURES AND NOVEMBER-FEBURARY STOCK PRICES

Winter is coming for most of the United States starting in November. By January, all but Florida and Hawaii will be spared. Totally disregarding the increase in pumpkin spice latte consumption, many other industries can be affected. Home improvement companies such as *HD* and generator supplier GNRC can see a boost in sales during cold snowy winters; and LNG provides fuel used to heat residential homes and commercial spaces across the country. In addition, we added a few other companies to our analysis:

- ***Vail Resorts (MTN)*** obviously could benefit from blizzards and colder temperatures for snowmaking.
- Plow seller ***Douglas Dynamics* (*PLOW*)**,
- ***Public Service Enterprise Group*** (***PEG)***, a New Jersey based energy utility serving the Northeast U.S.,
- Cold weather clothing brand owner ***Vanity Fair* (*VFC)***, and
- ***Fed Ex (FDX)***.

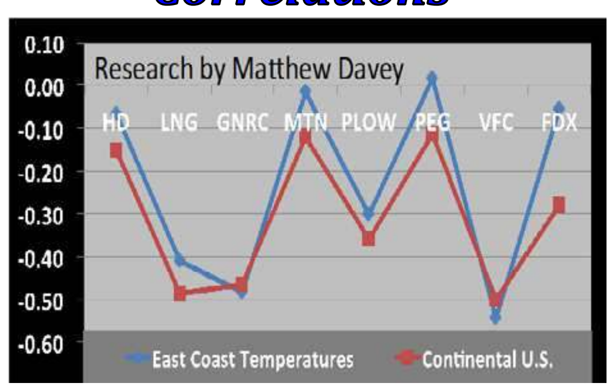
We put these anecdotal observations to the test. The percentage moves from the first trading day in November to the last in February were calculated (2010 = Nov '09 to Feb '10). They were lined up from coldest to warmest years (left to right, Dec-Jan-Feb) continental U.S. temperature anomaly). The ***S&P 500*** Index was also displayed for a reference. Notice the strong differences in *VFC*, *PLOW*, and *GNRC* from **cold** to **warm** years. As for LNG, most of the years had similar returns, with an outlier of 2011 (due to other factors).

Price moves (%) Nov 1st – Feb 28th



Though these returns are interesting, it is important to compare them to the movement of the *S&P 500* index. For each given time period, we took the gains/losses (%) in the stock prices and subtracted them from the *S&P 500.* We then ran correlations of those values to two separate temperature anomaly values. The greatest correlation is between *VFC* and East Coast Temperatures. As temperatures increase, returns typically decrease (and vice versa). This is the only value that reached the 10% confidence level (<10% chance relationship due to random noise). Notice the strong negative relationship of *PLOW* and GNRC, too.

Correlations



VFC, PLOW, and GNRC are our picks if the winter forecast looks cold.